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10/828,761	04/20/2004	Shyuan-Jeng Ho	1176/209	5240

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LIU & LIU
444 S. FLOWER STREET SUITE 1750
LOS ANGELES, CA 90071

EXAMINER	
ABDULSELAM, ABBAS I	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/828,761	HO ET AL.	
	Examiner	Art Unit	
	Abbas I. Abdulselam	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-8 and 11-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-8 and 11-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to a communication filed on 07/13/2007. Claims 1, 4-8, 11-21 are pending. Claims 2-3 and 9-10 are canceled.

Response to Arguments

2. Applicant's arguments with respect to claims 15-21 have been considered but are moot in view of the new ground(s) of rejection.

3. Applicant's arguments filed on 07/13/2007 with respect to claims 1, 4-8, 11- 14 have been fully considered but they are not persuasive.

Applicant argues that the references cited Toba (USPN 6907276) and Aoki et al. (USPN 7184010) do not teach a claim limitation "the connector is a flexible printed circuit board". However, as shown in the art rejection above, Aoki et al (USPN 7184010) teaches as shown in Fig. 4 a flexible printed circuit board (30) is connected to a side of the liquid crystal display panel (1)(col. 6, lines 7-12).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Toba's switches (27, 28) shown in Fig. 7 with Aoki's flexible printed circuit board (30) as configured in Fig. 4, because the use of flexible printed circuit board (30) helps constitute a liquid crystal display device 100 as taught by Aoki et al (col. 6, lines 7-10).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 15-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Independent claim 15 recites a limitation "the connector is independent of any switches" . This limitation is not described in the specification.

Claims 16-21 are rejected by the virtue of their dependencies on claim 15.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claim 15 is rejected under 35 U.S.C. 102(e) as being anticipated by Toba (USPN 6907276)

Regarding claim 15, Toba (USPN 6907276) teaches a dual-display panel module *(col. 6, lines 48-49, Fig. 1 (1), mobile communication terminal (1))*, comprising: a primary display module *(col. 6, lines 51-52, Fig. 1 (5), Fig. 7 (5), main display unit (5))*; a secondary display module *(col. 6, line 54, Fig. 2 (11), Fig. 7 (11), external display unit (11))*; a connector *(Fig. 7 (27, 28))* electrically connecting the primary display module and secondary display module *(col. 15, lines 24-29, Fig 7 (25, 27, 28, 5, 11), the main display unit (5) is connected with an LCD driver (25) via a switch (27) and the external display unit (11) is connected with the LCD driver (25) via a switch (28))*; and a driver *(Fig. 7 (25))* operatively coupled to the primary display module *(Fig. 7 (5))* and secondary display module *(Fig. 7 (11))*, wherein the driver is supported in electrical connections to the primary display module and the secondary display modules via the connector *(col. 15, lines 24-29, Fig 7 (5, 11, 25), both the main display unit (5), and the external display unit (11) are connected with an LCD driver (25) via switches (27, 28))*.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1, 4, 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toba (USPN 6907276) in view of Aoki et al. (USPN 7184010).

Regarding claim 1, Toba (USPN 6907276) teaches a dual-display panel module *(col. 6, lines 48-49, Fig. 1 (1), mobile communication terminal (1))*, comprising: a primary display module *(col. 6, lines 51-52, Fig. 1 (5), Fig. 7 (5), main display unit (5))*; a secondary display module *(col. 6, line 54, Fig. 2 (11), Fig. 7 (11), external display unit (11))*; a connector *(Fig. 7 (27, 28))* electrically connecting the primary display module and secondary display module *(col. 15, lines 24-29, Fig 7 (25, 27, 28, 5, 11), the main display unit (5) is connected with an LCD driver (25) via a switch (27) and the external display unit (11) is connected with the LCD driver (25) via a switch (28))*; and a driver *(Fig. 7 (25))* operatively coupled to the primary display module *(Fig. 7 (5))* and secondary display module *(Fig. 7 (11))*, wherein the driver is supported in electrical connections to the primary display module and the secondary display modules via the connector *(col. 15, lines 24-29, Fig 7 (5, 11, 25), both the main display unit (5), and the external display unit (11) are connected with an LCD driver (25) via switches (27, 28))*.

Regarding claim 8, Toba teaches an electronic device, comprising: a dual display module comprising *(col. 6, lines 48-49, Fig. 1 (1), mobile communication terminal (1))*: a primary display module *(col. 6, lines 51-52, Fig. 1 (5), Fig. 7 (5), main display unit (5))*; a secondary display module *(col. 6, line 54, Fig. 2 (11), Fig. 7 (11), external display unit (11))*; a connector *(Fig. 7 (27, 28))* electrically connecting the primary display module and secondary display module *(col. 15, lines 24-29, Fig 7 (25, 27, 28, 5, 11), the main display unit (5) is connected with an LCD driver (25) via a switch (27) and the external display unit (11) is connected with the LCD driver (25) via a switch (28))*; and a driver *(Fig. 7 (25))* operatively coupled to the primary display module *(Fig. 7 (5))* and secondary display module *(Fig. 7 (11))*, wherein the driver is supported in electrical connections to the primary display module and the secondary display modules via the connector *(col. 15, lines 24-29, Fig 7 (5, 11, 25), both the main display unit (5), and the external display unit (11) are connected with an LCD driver (25) via switches (27, 28))*; and a controller *(Fig. 7 (21), control circuit (21))* operatively coupled to the dual display module *(as shown in Fig. 7, the control circuit (21) is part of a circuit structure of a mobile communication terminal (1))* and communicating display data to the dual display module *(col. 16, lines 7-11, col. 16, lines 22-32, Fig. 7 (5, 11, 21), the control circuit (21) controls the LCD driver (25) and call arrival is displayed on the external display (11), col. 16, lines 32-38, the control circuit (21) controls the LCD*

driver (25) in order to display and delete on the external display (11) , and also to display non-replied data on the main display unit (5)).

Toba does not teach, "the connector is a flexible printed circuit board".

Aoki et al (USPN 7184010) on the other hand teaches as shown in Fig. 4 a flexible printed circuit board (30) is connected to a side of the liquid crystal display panel (1)(col. 6, lines 7-12).

Thus, It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Toba's switches (27, 28) shown in Fig. 7 with Aoki's flexible printed circuit board (30) as configured in Fig. 4, because the use of flexible printed circuit board (30) helps constitute a liquid crystal display device 100 as taught by Aoki et al (col. 6, lines 7-10).

Regarding claims 4 and 11, while Toba teaches the LCD driver (25) as shown in Fig. 7,

Toba does not teach the driver is formed on the connector.

Aoki et al (USPN 7184010) on the other hand teaches as shown in Fig. 4 a flexible printed circuit board (30) is connected to a side of the liquid

crystal display panel (1) such that a second driving circuit 5B is mounted on the flexible printed circuit board (30) (col. 6, lines 7-12).

Thus, It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Toba's driver (25) shown in Fig. 7 with Aoki's arrangement of flexible printed circuit board (30), which is under driving circuit (5B) as configured in Fig. 4, because the use of flexible printed circuit board (30) helps constitute a liquid crystal display device 100 as taught by Aoki et al (col. 6, lines 7-10).

10. Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toba (USPN 6907276) in view of in view of Aoki et al. (USPN 7184010) and further in view of Sekura et al. (USPN 6198383).

Regarding claims 5 and 12, While Toba as modified by Aoki teaches LCD driver (25) as shown in Fig. 7,

Toba does not teach the driver is an ASIC.

Sekura et al. (USPN 6198383) on the other hand teaches as shown in Fig. 2 an LCD display 3 with an ASIC LCD driver (11) (col. 4, lines 11-13).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Toba's LCD driver (25) shown in Fig. 7 (as modified by Aoki et al) to adapt Sekura's ASIC LCD driver (11) shown in Fig. 2, because the use of ASIC LCD driver (11) is preferable in driving the display (3) to display relevant information in display area (31-35) of a compliance device as taught by Sekura col. 3, lines 55-56, col. 4, lines 9-15).

11. Claims 6-7 and 13-14 are and are rejected under 35 U.S.C. 103(a) as being unpatentable over Toba (USPN 6907276) in view of Aoki et al. (USPN 7184010) and further in view of Jacobsen et al. (USPN 6073034).

Regarding claims 6 and 13, While Toba teaches both the main display unit (5) and the external display unit (11) as being liquid crystal near displays (col. 6, lines 60-65, Fig. 7 (5, 11)),

Toba does not specifically at least one of the primary and secondary display panels comprises an amorphous silicon TFT-LCD panel.

However, it is know as mentioned by Jacobsen et al. (USPN 6073034) that flat panel displays utilizing LCD with TFT formation involves the use of amorphous silicon (col. 1, lines 31-36, col. 1, lines 45-47).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Toba's liquid crystal displays (5, 11) shown in Fig. 7 (as modified by Aoki et al) with Jacobsen's known TFT formation involving amorphous silicon, because the use of TFT formation involving amorphous silicon helps function flat panel displays employing LCD as taught by Jacobsen (col. 1, lines 31-36, col. 1, lines 45-47).

Regarding claims 7 and 14, *while Toba teaches both the main display unit (5) and the external display unit (11) as being liquid crystal near display (col. 6, lines 60-65, Fig. 7 (5, 11)),*

Toba does not teach at least one of the primary and secondary display panels comprises a low temperature polysilicon TFT-LCD panel.

However, it is know as mentioned by Jacobsen et al. (USPN 6073034) that flat panel displays utilizing LCD with TFT formation involves the use of polycrystalline silicon, which restricts circuit processing to low temperature (col. 1, lines 31-36, col. 1, lines 45-47, col. 1 lines 66-67, col. 2, lines 1-3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Toba's liquid crystal displays (5,

11) shown in Fig. 7 (as modified by Aoki et al) *with Jacobsen's known TFT formation involving polycrystalline silicon, because the use of TFT formation involving polycrystalline silicon helps function flat panel displays employing LCD as taught by Jacobsen (col. 1, lines 31-36, col. 1, lines 45-47).*

12. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toba (USPN 6907276) in view of Aoki et al. (USPN 7184010).

Regarding claims 16-17, Toba does not teach the connector is substantially flexible, and the connector is a flexible printed circuit board.

Aoki et al (USPN 7184010) on the other hand teaches as shown in Fig. 4 a flexible printed circuit board (30) is connected to a side of the liquid crystal display panel (1)(col. 6, lines 7-12).

Thus, It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Toba's switches (27, 28) shown in Fig. 7 with Aoki's flexible printed circuit board (30) as configured in Fig. 4,

because the use of flexible printed circuit board (30) helps constitute a liquid crystal display device 100 as taught by Aoki et al (col. 6, lines 7-10).

Regarding claim 18, while Toba teaches the LCD driver (25) as shown in Fig. 7,

Toba does not teach the driver is formed on the connector.

Aoki et al (USPN 7184010) on the other hand teaches as shown in Fig. 4 a flexible printed circuit board (30) is connected to a side of the liquid crystal display panel (1) such that a second driving circuit 5B is mounted on the flexible printed circuit board (30) (col. 6, lines 7-12).

Thus, It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Toba's driver (25) shown in Fig. 7 with Aoki's arrangement of flexible printed circuit board (30), which is under driving circuit (5B) as configured in Fig. 4, because the use of flexible printed circuit board (30) helps constitute a liquid crystal display device 100 as taught by Aoki et al (col. 6, lines 7-10).

13. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toba (USPN 6907276) in view of Sekura et al. (USPN 6198383).

Regarding claim 19, While Toba teaches LCD driver (25) as shown in Fig. 7,

Toba does not teach the driver is an ASIC.

Sekura et al. (USPN 6198383) on the other hand teaches as shown in Fig. 2 an LCD display 3 with an ASIC LCD driver (11) (col. 4, lines 11-13).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Toba's LCD driver (25) shown in Fig. 7 to adapt Sekura's ASIC LCD driver (11) shown in Fig. 2, because the use of ASIC LCD driver (11) is preferable in driving the display (3) to display relevant information in display area (31-35) of a compliance device as taught by Sekura col. 3, lines 55-56, col. 4, lines 9-15).

14. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toba (USPN 6907276) and Jacobsen et al. (USPN 6073034).

Regarding claim 20,While Toba teaches both the main display unit (5) and the external display unit (11) as being liquid crystal near displays (col. 6, lines 60-65, Fig. 7 (5, 11)),

Toba does not specifically at least one of the primary and secondary display panels comprises an amorphous silicon TFT-LCD panel.

However, it is know as mentioned by Jacobsen et al. (USPN 6073034) that flat panel displays utilizing LCD with TFT formation involves the use of amorphous silicon (col. 1, lines 31-36, col. 1, lines 45-47).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Toba's liquid crystal displays (5, 11) shown in Fig. 7 with Jacobsen's known TFT formation involving amorphous silicon, because the use of TFT formation involving amorphous silicon helps function flat panel displays employing LCD as taught by Jacobsen (col. 1, lines 31-36, col. 1, lines 45-47).

Regarding claim 21, while *Toba teaches both the main display unit (5) and the external display unit (11) as being liquid crystal near display (col. 6, lines 60-65, Fig. 7 (5, 11)),*

Toba does not teach at least one of the primary and secondary display panels comprises a low temperature polysilicon TFT-LCD panel.

However, it is know as mentioned by Jacobsen et al. (USPN 6073034) that flat panel displays utilizing LCD with TFT formation involves the use of

polycrystalline silicon, which restricts circuit processing to low temperature (col. 1, lines 31-36, col. 1, lines 45-47, col. 1 lines 66-67, col. 2, lines 1-3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Toba's liquid crystal displays (5, 11) shown in Fig. 7 with Jacobsen's known TFT formation involving polycrystalline silicon, because the use of TFT formation involving polycrystalline silicon helps function flat panel displays employing LCD as taught by Jacobsen (col. 1, lines 31-36, col. 1, lines 45-47).

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abbas I. Abdulselam whose telephone number is 571-272-7685. The examiner can normally be reached on Monday through Friday from 9:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abbas I Abdulselam
Examiner
Art Unit 2629
September 30, 2007

RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600